



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: M45H-01 BYPASS RATIO: 3.0
 UNIQUE ID NUMBER: 1RR001 PRESSURE RATIO (π_{00}): 16.5
 COMBUSTOR:
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 32.4

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	182.6	558.6	32.6	49.8
AS % OF ORIGINAL LIMIT	931.6	473.4	44.7	154.5
AS % OF CAEP/2 LIMIT (NO _x)			55.8	
AS % OF CAEP/4 LIMIT (NO _x)			57.0	
AS % OF CAEP/6 LIMIT (NO _x)			57.5	
AS % OF CAEP/8 LIMIT (NO _x)			61.2	

DATA STATUS

x PRE-REGULATION
 - CERTIFICATION
 x REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	0.498		6.20	11.50	46.3
CLIMB OUT	85	2.2	0.416	0.74	7.90	9.30	38.4
APPROACH	30	4.0	0.146	7.40	51.00	3.60	10.9
IDLE	7	26.0	0.053	59.50	178.40	1.50	2.7
LTO TOTAL FUEL (kg) or EMISSIONS (g)			194		17101	1001	-
NUMBER OF ENGINES				5	5	5	5
NUMBER OF TESTS				5	5	5	5
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				162.4	526.0	31.2	46.3
SIGMA (D _p /F ₀₀ in g/kN, or SN)				87.5	99.5	3.8	3.9
RANGE (D _p /F ₀₀ in g/kN, or SN)				81-293.4	374.3-633.8	26.4-35.9	42-54.5

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 6 (% CORE FLOW) AT 0.07 POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.6-102.1
TEMPERATURE (K)	281-293
ABS HUMIDITY (kg/kg)	0.00456-0.00749

FUEL

SPEC	DERD 2494
H/C	1.94
AROM (%)	19

MANUFACTURER: Rolls-Royce plc
 TEST ORGANIZATION: Rolls-Royce Ltd
 TEST LOCATION: Bristol
 TEST DATES: 24/05/1985-30/05/1985

REMARKS

1. Stage bleed on 2 engines

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)